



THE RARA RAG

Newsletter of The Rochester Amateur Radio Association, Inc.

Founded in 1931

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PUBLIC SERVICE AND AMATEUR RADIO - WHO, WHAT, WHERE AND WHY?

SCOTT THEIS, W2LW, RARA VICE PRESIDENT

Every ham has his or her own reason for being in the hobby, whether it be radio tech, electronics, social activities or to help the community. Public service and emergency communication are a central part of RARA's mission. Further, public service fundamentally satisfies FCC Part 97.1(a), which states "recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications".

For this month's general meeting presentation, Mike Moore, KC2NM, will share his experience and knowledge of public service setup, management, and operation. He will discuss:

- ARRL plan for Amateur Radio
- New training plans for ARES and RACES
- The RARA Public Service Program
- Net Operation Procedures
- Command Center Setup

Mike started his ham radio hobby as a short-wave listener at the age of 11. He was licensed as a Novice three years later and a General soon after that. He was active on HF as a teenager, and that led him to a career as an Electrical Engineer. Along the way, he earned Advanced and Amateur Extra licenses. Mike moved to Rochester with his wife Sue in 1976 to work for Xerox. He is now retired from Exelis Space System (now Harris) and his current interests are playing with the digital modes DSTAR and DMR. He is also a member of the RARA Board of Directors and RARA's Public Service Event Coordinator.



Whether you are new to the hobby, want to brush some rust off, or just like helping out, working on a public service event is a rewarding way to improve your skills while helping the community.

Please join us on Wednesday, October 2nd, 2019, 7:00PM at the Boy Scouts Headquarters at 2320 Brighton Henrietta Townline Road, Rochester, New York 14623



K2JD

N2EH

W2EOC

BOARDZ BUZZ

TIM GUYOT, KB1POP, RARA PRESIDENT

Thank you to the Nominating Committee (Forest Shick WA2MZG, Anand Choudri KC2KPG, and Gary Skuse KA1NJL) and the membership for entrusting another year of RARA leadership to me. I'm excited to help orchestrate another year of RARA events and opportunities.

We do a lot!

- Public-service
- Licensing classes and testing
- Operating events (ILLW, October Operation at Durand)
- Educational events (RARA Academy)
- Ham Radio Events (Auction / Hamfest / Banquet)
- Many More

At rough count, that's 68 activities a year to plan, coordinate, communicate and execute. I might write the board agenda, but we wouldn't be able to pull this off without the hard work of the other board members and some non-board members that have decided to step up and lead one of RARA's activities or programs. We can always use more help. Reach out to a board member if you're interested in leading or helping to lead an activity.

Operating

One of the most important things RARA can do is provide operating opportunities to get people experience and confidence being on the air. See below for details on our all-day operating event October 5th.

Auction

One of our most attended regularly scheduled meetings is coming. The annual RARA Auction. See below and the next issue of the RAG for details on how to participate.

There's always a bit of chaos at the auction and extra hands make things much easier. If you can help set up, and bring items to the cashier, please contact a board member and we'll get you looped into the planning communication.

The auction is a members-only event. Don't forget to renew your membership before you come. (We do accept renewals at the door, but it's much easier for us if you do it in advance!)

https://rochesterham.org/membership_data.aspx

Hamfest

I know it seems like June 2020 is far away, but there's a lot of planning that goes into the Hamfest. We're looking for a few people to join the HF committee and lead the event planning. Please contact me or another board member to join.

CALENDAR OF EVENTS

WEDNESDAY OCTOBER 2, 2019 - RARA General Meeting

7:00 PM at BSA Headquarters

2320 Brighton Henrietta Town Line Rd

THURSDAY OCTOBER 3, 2019 - RARA Board of Directors Meeting

6:30 PM at Novaworks, 333 Metro Park, F-500

WEDNESDAY NOVEMBER 6, 2019 - RARA Annual Auction

WEDNESDAY DECEMBER 4, 2019 - RARA General Meeting

SATURDAY FEBRUARY 15, 2020 WINTERFEST 2020

JUNE 6, 2020 RARA HAMFEST 2020

TBD RARA PICNIC 2020

Coming Soon RaRa's



The 2019 RARA Auction will be held on Wednesday, November 6.

Now is a good time to look around your shack, workbench, closet or garage for that radio, antenna, tester or accessory that another ham can put to good use. Take a few minutes to wipe it down and test it.

Further details will be in the November RAG.
Here's a photo of some of equipment being staged for the event.

Annual Auction

EDUCATION

Tim Brown, WB2PAY, Education Coordinator

RARA ACADEMY WORKSHOPS

October Academy — HF OPERATIONS IN THE PARK, an OUTDOOR EVENT (mini Field Day)

Saturday October 5th, 2019 (10am-5pm)

Operations will be at **Durand Eastman Park in the Acorn Shelter on Log Cabin Road.**

This is a GREAT opportunity to learn from experienced operators and use a variety of antennas and equipment. There is plenty of room and tall trees for antenna installations and testing.

Academy mini Field Day Activities:

- **Antenna Demonstrations & Testing:**
Dipoles, G5RV, EFHWs, Random Wires, Ground mounted Verticals, Buddipole and more.....
- **Antenna Installation Techniques:**
Air Canon, Fishing Pole, Sling Shot, Weight Toss, Tripods and mounts for Verticals.
- **HF Equipment (12vdc)**
Yaesu FT-450, FT-857D, Kenwood TS-440. Bring your rigs and show them to all.
- **Battery Power will be provided:**
Sealed Lead Acid, AGM, Li-ion, Solar Panels
- **Experience HF Operating:**
Operate a variety of rigs and antennas

THIS IS AN ALL DAY EVENT.

RARA will provide Charcoal for grilling. Bring your own Burgers or Hots etc.

November Academy — FT-8 & WSPR modes

Saturday November 9th, 2019 (10am-1pm)

Session will be held at the **Gates Library, 902 Elmgrove Rd. just south of RT - 531 Elmgrove exit.**

Topics:

- Weak signal modes: Even if you cannot hear the signal in the noise, the computer can still decode it
- Setting up your digital station
- Installation and configuration of software

- Propagation experiments with FT8 and WSPR
 - getting data from the internet
- Instant WAS with FT8?
- Alternative ways of creating WSPR signals

Karl Heinz Kremer, K5KHK, will host this Academy session

Latest Academy information is available at https://www.rochesterham.org/rara_academy.htm

THE ELMERS CORNER

Our next Elmers Corner will be at the Oct. 2nd meeting from 6:15pm to 6:45pm prior to the start of the regular meeting.

Let our Elmer help you with your questions or topics of interest.

Scott Theis, W2LW, will host the October session.

RARA LICENSE COURSES

2019 September License Classes

Amateur Technician, General and Extra Licensing classes began on Tuesday September 17, 2019.

Classes run from 7- 9:30pm for 10 weeks with FREE testing on the 11th week.

Licensing courses are FREE to current members and students and only \$15.00 for non-members.

Sign up for Academy Workshops and late entrance to License Courses by emailing <mailto:education@rochesterham.org>

Take advantage of RARA sponsored training and operating opportunities.

JAMBOREE ON THE AIR—JOTA

Jamboree on the Air is being held October 18th and 19th. If you hear any scouts on the air please take a few minutes to talk to the boys. The Challenge Trophy Camporee is being held at Babcock Hovey on the weekend of October 26th. There will be about 2000 scouts attending and I will have several radios set up to let the scouts talk on the air. If you are free please come down and help out. We are located near Ovid, NY along Seneca Lake. Stephen Fell 585-233-7706 K2SRF@ROCHESTER.RR.COM

OCTOBER PUBLIC SERVICE EVENTS

MIKE MOORE, KC2NM, RARA PUBLIC SERVICE COORDINATOR

Scout Ham Radio Demonstration: Saturday, October 26
BSA Camp Babcock-Hovey - Ovid, NY from 8:00 AM till 4:00 PM

This annual event has a different date this year as part of the scouting Challenge Trophy Camporee at Camp Babcock-Hovey. It is normally part of the scouting **JOTA** activity but this year the events do not coincide. There will be a midway at the camp where the scouts and their families are exposed to ham radio. The RARA involvement is mostly during the day on Saturday. You may register to participate at the Public Service Section of the RARA website and click on the sign-up link for the demonstration or you may contact Steve Fell, K2SRF at 585-233-7706 or K2SRF@ROCHESTER.RR.COM.

Pumpkin Patrol: October 30-31
Bridges of the New York State Thruway



This event contributes to the safety of travelers on the New York State Thruway. It is a statewide event and is held in cooperation with the New York State Troopers. Teams of two hams are assigned a post at each of the Thruway bridges in Monroe County. The teams observe activity on the bridges and report any suspicious activity to local law enforcement. These actions are repeated by ham clubs all along the thruway for statewide coverage. The event began several years ago when some untoward individuals were found to have dropped pumpkins from the bridges down onto passing trucks and cars. Our efforts have put a stop to the actions of these vandals but, more importantly, the resources of local law enforcement agencies have been put to more valuable use. The time commitment is from just after dark until just before midnight on Wednesday, Oct. 30 and Thursday, Oct. 31. Operations will use the WR2AHL repeater 145.11. The

following hams have registered to participate: AB2NG, K1EM, K1PY, K2DPC, K2UW, KA2WNS, KB2CHY, KC2KPG, KC2KPL, KC2NM, KD2EHW, KD2IOB, N2IZX, N2KZF, N2YPM, W2JAT, WA2CHV, WB2JOR, and WB2KAO. There are still some available slots to help out. Please consider signing up and participating in this event. Contact Ed Wilkonski K1EM, event captain of this event at wingstwofly@rochester.rr.com. You may also register at the Public Service Section of the RARA website and click on the sign-up link.

Past Events BikeMS : ROC the Ride Saturday, August 24th, 2019



This successful event was held in great weather conditions. The RARA role was to conduct logistical and safety communications for the ride. The ride was a fundraiser where teams of bicycle riders collected sponsorships to benefit the Multiple Sclerosis Society. There were 4 ride courses. Phil, K2ELV served as event captain and all of the hams reported that it was a fun event. Operations were conducted using the WR2AHL repeater 444.55 and WR2ROC repeater 444.25 . The repeaters were linked together and offered outstanding coverage for all of the routes. Thanks to K1EM, K2ECQ/KB2KNU, K2ELV, K5KHK, KB1POP, KC2LVO, KC2NM, KD2BEC, KD2DNO, KD2I0B, KD2RKD, KR2RC, N2BNE, N2PEZ, Susan A., W2CAC, and W2COP for making this event the success that it was! Thanks, Van, N2BNE for Photos.

Results for the Fairport Lift Bridge Regatta scheduled on the Erie Canal – Fairport, NY Saturday, September 28 will be reported in the November RARA RAG.

Remaining events in the 2019 public service calendar are listed in the following table.

| | | | |
|------------------------------|--|----------------------|----------------|
| Holiday Science & Technology | Rochester Museum & Science Center (In Planning | Wednesday - Saturday | December 26-28 |
|------------------------------|--|----------------------|----------------|

Visit https://rochesterham.org/public_service.htm for more information and to volunteer.

6 METER LOOP ANTENNA

TIM BROWN, WB2PAY

With all my Ham Radio experience, I never had a dedicated horizontally polarized antenna for 6 meters. I had always used one of my multi-band HF antennas to get on 6 meters. The RXCW group has been holding Morse code CW practice Tuesday evenings at 9pm on 50.250mhz. I managed to check in a couple of times using my 80m ladder line fed Delta Loop. Performance was marginal. The antenna would load up but how well it was radiating was questionable. I could barely copy hams from the east side of the county 18-20 miles away.

Having plenty of antenna materials I decided to construct a 6m loop antenna. I like loops because they are low noise and can be easily erected.

I started by calculating the overall loop length. ($1005 / 50.250 = 20 \text{ feet}$). Each side of the Delta loop would be 6ft 8in.

I cut the wire needed, adding about 6 extra inches in case I had to trim the antenna. (Better to be too long than too short)

3 Dogbone insulators are added to the wire. The center insulator is used to hoist the antenna into the tree. The other two serve to pull the base of the Delta horizontal. The side insulators are held in place 3 feet from each end of the wire using tie wraps. The center insulator is allowed to "float".



The next step is the center feed point assembly. I used a T coax adapter with two PL-259 connectors.



One end of the Delta loop is soldered to the center pin of one PL-259 and the other end of the loop is soldered to the outer case of the second PL-259. The two connectors are screwed into the T adapter. A Female to Female SO-239 connector is used to connect the T to the matching Stub coax.

A 1/4 wave matching stub was made from RG59, 75 ohm coax. I did not have a 4:1 balun readily available.



The length was calculated as $(234/50.250) \times 0.66$ velocity factor = 3.07 feet. PL-259s were placed at each end of the Stub. Another F/F adapter connects the Stub to the RG-213 coax which goes to the shack.

The completed antenna is ready for hoisting.



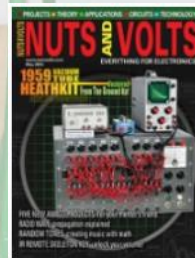
October Raffle Prizes

- Bird Technologies \$100 Gift Certificate
- CQ Magazine Subscription Gift Certificate
- Nuts and Volts Magazine Subscription Gift Certificate
- Satellites Today Book

No November Raffle because of the Auction

Coming in December

- Mosley ANT-DIV-80 Antenna



Delta loops can be mounted horizontally using 3 masts or they may be mounted vertically with one support point. I chose to mount the antenna vertically by hoisting it up with an antenna cord tossed over the limb of a tree. As many of you know, I am an advocate for the use of D style Carabineers to attach my antenna cords. The side insulators are pulled horizontal to another tree and to a trellis on my back porch.



Antenna is up and ready for testing. Total assembly time was about 1.5hrs. Assembly could go faster with two people.

On air tests with Forest Shick, WA2MZG and Harry Williams, KF2TV showed a dramatic improvement over my previous antenna. Signals were up 2 S units and background noise was reduced.

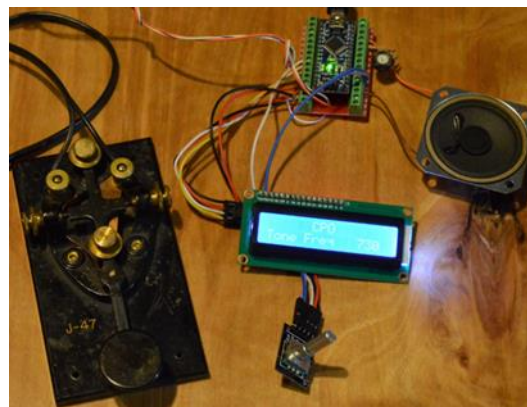
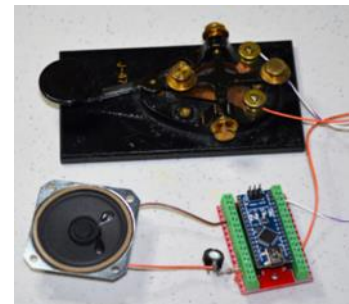
An easy to build antenna that does not require a lot of area should be attractive to hams wishing to get on 6 meters.

MCMT OR ARDUINO NANO PLAYGROUND

FOREST SHICK, WA2MZG

In the January 2019 issue of the RAG, I presented a simple code practice oscillator (CPO) using nothing more than the Arduino Nano, a speaker, a potentiometer and a straight key. I also included a C program for the Nano.

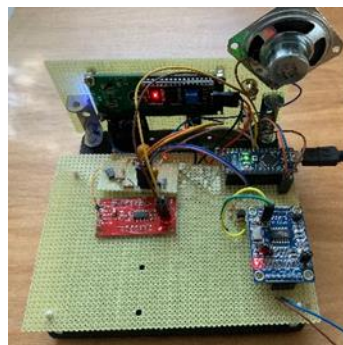
In the February issue, I added a simple user interface by adding a 2 line by 16-character LCD and a rotary encoder. With some additional C code, the user was able to adjust the side tone frequency.



Now 8 months have passed. I must admit that I got carried away with the idea of the CPO.

First, I added more C programming for a random Morse code character generator, then a learn mode, an Iambic keyer and then a straight key keyer.

Next I added an AD9850 direct digital synthesis board and a sound detector board. These were used for making an extremely low power transmitter and a Morse code decoder.



Finally, I ruggedized the CPO by adding a chassis and securing most of the modules to perf board. I also added an audio amplifier.

My intent was to present a simple set of hardware for the beginner. Provide a simple goal of building your own CPO. Include an Arduino sketch as starter C program to entice someone to take the leap and try playing with and programming a microcontroller.

- LCD – designing a user interface
- Rotary Encoder – detecting the direction of rotation of the shaft and the press and release of the built-in switch
- Detecting 1 or 2 contact closures – straight key and paddle
- Timers for dot and dash formation
- Time measurement used for Morse code decoding of an audio signal from a receiver
- On / Off keying of a LED, side tone and a transmitted signal
- Adjusting the side tone frequency
- Handling interrupts from timers and switch status change

- CPO – tone frequency
- Keyers
 - Character speed (WPM) and character spacing
 - Iambic paddle operation
 - Straight key
- Random Character Generator – selecting and randomizing groups of characters:
 - Letters
 - Numbers
 - Punctuation
 - Extended Punctuation (rarely used characters)
 - Combinations of the above
- Learn – selecting which of the 50+ characters to repeat as a memorization tool
- Transmitter - setting a frequency for the transmitter and on / off keying
- Decoder – adjusting the WPM threshold for decoding a Morse code audio signal. Converting the dots, dashes and spaces into characters on the display.

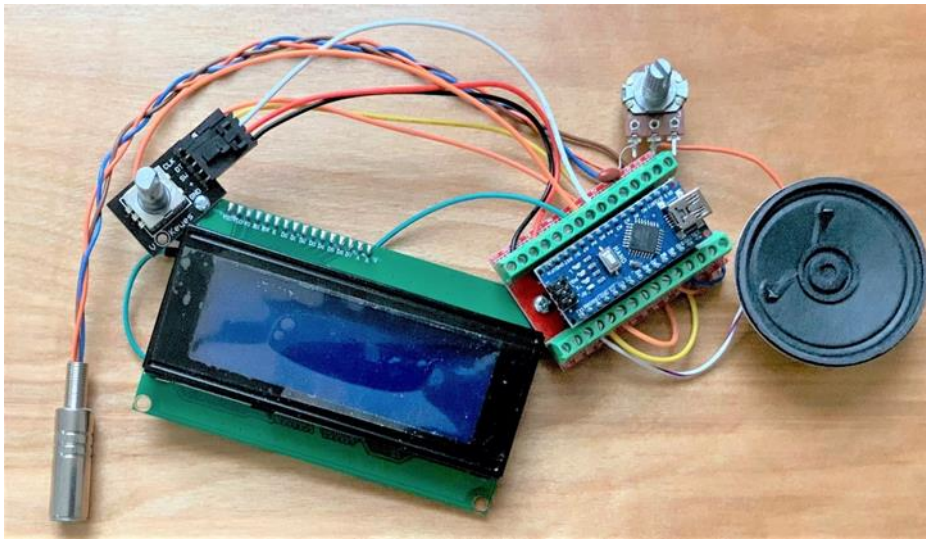
THE RARA RAG

Morse Code Multi Tool Nano

The diagram shows an Arduino Nano board with the following connections:

- Power:** VIN is connected to a 7-12V source (20V limit). A +5V pin is connected to a red circle representing a 5V source.
- Key Connector - TRS:**
 - Tip (Orange) - Key / Paddle
 - Ring (Blue) - Paddle
 - Sleeve (Brown) - GND
- Key and Paddle:** The KEY pin is connected to D8. The PADDLE pin is connected to D9. Both pins have 1000pF capacitors connected to ground.
- LCD 4 x 20:**
 - GND is connected to the board's ground.
 - +5V is connected to the +5V pin.
 - SDA is connected to A4.
 - SCL is connected to A5.
- Speaker:** A 10K resistor and a 22uF capacitor are connected in series between A1 and ground. A speaker symbol is connected to the output.
- Rotary Encoder:**
 - SW is connected to A0.
 - CLK is connected to D2.
 - DT is connected to D3.
 - GND is connected to the board's ground.
- Capacitors:** 1000pF capacitors are connected to ground from A0, D2, D3, and the DT pin of the rotary encoder.

Note: The board can be powered using the USB connector.

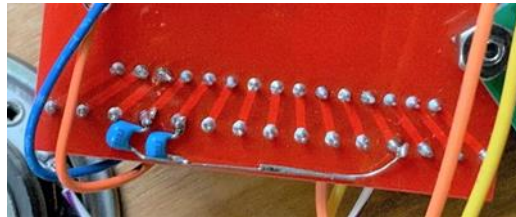


Instead of building a chassis this time, I just connected the parts together with screws and nuts. This made for simple wiring of all the components.

Yes, there is soldering involved.

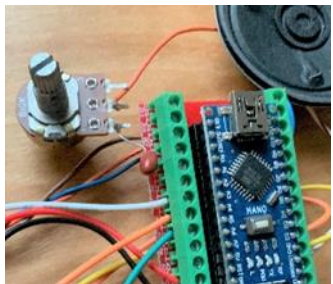


3 capacitors on the rotary encoder



2 capacitors on the key / paddle inputs

These 5 capacitors provide filtering for switch debounce which otherwise would have to be resolved in the firmware. 5 capacitors are much easier!



The capacitor, potentiometer and speaker are also soldered together. In the first design there was a resistor instead of a capacitor. The purpose of either component is to protect the speaker from the possible 5V DC output of A0 on the Nano, if the tone is stopped and the port pin is at 5 volts. The resistor, pot and speaker formed a voltage divider which limited the max audio possible. The capacitor improved the situation.

Finally, although many of the connections are made with push on terminals, many more are accomplished with the screw terminal board. This required stripping and soldering the bare wire to provide a sturdy connection in the screw terminal.

Notice that the Nano is on a screw terminal adapter board. This was not necessary, but it provided a more secure means to connect all the wires from the other components to the Nano with much less chance of the push on terminals falling off during handling.

Functions

At the time of this writing, there are 6 functions available:



- Setup – Configure some of the common parameters and save all the variable parameters to on board EEPROM
 - Speed – this sets the spacing between characters, not the speed of the actual Morse code character. For example, the words per minute may be set at 18 and the speed set at 8
 - Tone frequency – set between 300 and 2000Hz
 - Random character generator character selection – described previously
 - Mode – having so many operating modes, this selection allows the user to determine which mode the MCMT powers up in.
 - Setup
 - Code Practice Oscillator
 - Learn
 - Random Character Generation
 - Iambic Keyer
 - Straight Key Keyer
- Save – provides a means to save the setup or revert back to the default setup



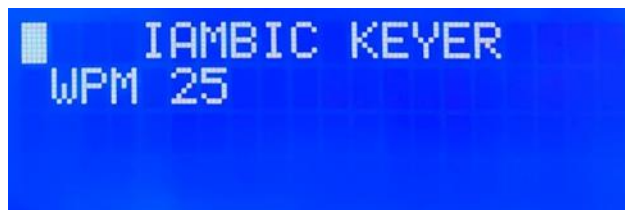
- Code Practice Oscillator – As you might expect – press the key and the tone turns on and release the key and the tone turns off.



- **Learn** – Send a selected character, at a specified WPM, in 5-character groups with character and word spacing determined by the Speed selection in the Setup mode.
 - The character may be selected from the 50+ available Morse characters
 - The WPM may be selected for this mode



- **Random Code Generation** – from the character set options discussed previously, random characters are sent in 5-character groups at the WPM selected for this mode and the character rate / speed set previously.



- **Iambic Keyer** – This is a simple keyer. With a paddle connected, pressing one paddle sends a series of dits. Pressing the other paddle sends a series of dahs and pressing both sends an alternating string of dits and dahs. The WPM for this mode is set on this screen.



- **Straight Key Keyer** – yes, you read that correctly – a straight key keyer. The purpose of this function is to smooth out the jitters of some fists and

correct the dit / dah ratio of other fists and to help newbies get into the rhythm of sending properly formed Morse code – in my humble opinion. Since there is only 1 key to form both dit and dah, the decision of which is it (dit or dah) is based on time. The time factor is determined by the WPM the user sets in this mode. Pressing and releasing the key rapidly forms a dit of the correct duration determined by the WPM. Holding the key closed slightly longer than the dit duration will form a dah of the correct duration determined by the WPM. Continuing to hold the key closed will create a properly spaced string of dahs. With only 1 key, I have not found a way to form a string of dits or alternating dits and dahs. This is basically a training feature although someone with an unsteady hand may find it helpful to form proper length dits and dahs.

Navigation

Moving from mode to mode and field to field is accomplished with the rotary encoder. Pressing the rotary encoder will turn on a flashing cursor. With the flashing cursor present, turning the rotary encoder will move the cursor from one mode to the next mode.

If you are in a mode, that has multiple fields, repeated pressing of the rotary encoder will move you from field to field and turning the rotary encoder will allow adjustment of the parameter of that field.

After you have selected the desired operational field, the cursor will be flashing. You will not be able to operate that function. Pressing the rotary encoder will turn off the flashing cursor and allow the mode to function.

To select another mode, you will have to press the rotary encoder to turn on the flashing cursor and then rotate the rotary encoder to move to another mode.

Note: In some modes, a parameter is adjustable although the cursor is not flashing. For example, in Iambic Keyer mode, the WPM may be adjusted while operating. In Learn mode, the desired character may be selected while operating.

Firmware

The firmware was developed using the Arduino IDE. If you are interested in this project, send me an email and I will send you the Arduino sketch. Email to: fshick3@gmail.com

We each have our own coding and documentation style. Be tolerant of what you see. I'm doing this for fun and for your use – don't bite the hand that feeds you!

What Next

I have one more version of the project that I am starting and then no more Arduino CPO projects. I will most likely add the sound detector for Morse decoding, the AD9850 as a micro transmitter and 1 or 2 other features that time allows.

What can you do? That is up to your imagination. Try improving the features I have presented. Find an easier method of navigation. Create your own user interface.

Explore the rotary encoder. It is a really neat tool for a user interface. In this project I have used the push button and rotary encoder feature independently. There is another option – pressing the switch and turning the shaft simultaneously – then releasing the switch. How would you write code for this feature?

To wrap this up, yes – you can do some of these features with software on your PC or with your keyer. The real point is to do it yourself. Make something simple and say I DID IT!

Parts List

- 1 - Arduino Nano
- 1 – LCD 4 x 20
- 1 – Rotary Encoder with switch
- 1 – [Nano Screw Terminal Shield](#)
- 5 – 1000pf capacitor
- 1 – 22uf capacitor
- 1 – 10K potentiometer
- 1 – Speaker
- 1 – TRS female connector

Most components are available from many sources such as eBay or Amazon. Read the descriptions carefully, not all rotary encoders have the pushbutton feature or threaded shafts for mounting. Some LCD have a modified character set but you really cannot tell this until you try it. You may get a Yen symbol in place of the backslash.



MEMORIES

JOHN KASPRZAK KD2UJ



My Mother passed away about three weeks ago. My sister was going through her things and found the attached photo. It has to be about 1964, my call was WN2LQL. I don't know if this is anything you can use in the newsletter, thought I'd send it along anyway.

The two receivers were a Lafayette regenerative receiver and an old Zenith Trans Oceanic with a BFO. I always wonder why the

Zenith had a BFO, perhaps for people who knew Morse code. The transmitter was a home brew 15 watt, that my friend and I built from found parts. I had an all band vertical. My shack was in the attic which was a good thing. To change

bands I had to move the clip on the coil of the vertical. I used wire from a transformer I had found in a junked TV. There is also a CB in the picture. I started with CB before ham. Later on my Grandmother gave me \$20 for a used Hallicrafters S-38D.

RARA / XRX CW GROUP – RXCWG

Now that summer is over it's time to brush the cobwebs off those keys and paddles and get back into the swing of making Morse code a "second nature" skill! The program steering committee has been meeting over the last two months to coordinate the Fall 2019 / Spring 2020 program.

Our large group kickoff meeting will be held on **Monday September 30 at the Webster Library Community Conference Room starting at 6:30PM**. A program and demonstrations are planned. Of particular importance will be the assignment of students to groups and Elmers. East and West beginners groups will be formed and a more formal intermediate/advanced group with regular group meetings is planned also.

As you may have guessed from Forest's survey about radio and antenna capabilities, getting ready to get on the air, and getting everyone on the air making CW QSOs, is a priority.

We hope you can join us in two weeks for the kickoff. If you can't make it and still want to be part of the action this fall please send me a note, Harry Williams, KF2TV, harryw7872@gmail.com and we will work with you to get you assigned to the proper group. If you have been a member of the East or West teams please contact one of your Elmers.

Mission Statement – Statement of Purpose

RXCWG is a collaborative effort between the RARA and XRX amateur radio clubs, and between students and Elmer's to support and advance the practice and use of Morse code in amateur radio. RXCWG has two primary goals. The first is to provide environments and instructors so that students can learn the basics of Morse code: the alphabet, numbers, pro-signs and common abbreviations, and to provide opportunities for students to make their first CW QSO along with ongoing practice and getting on the air. The second goal is to provide venues, environments, coaching and support to those amateurs who wish to improve their code proficiency. RXCWG desires to provide support to new hams entering the hobby who may also need basic instruction in the fundamentals of amateur radio, setting up a station and getting on the air.

It is RXCWG's intention to complement, not compete with, the activities and programs of other radio clubs in our community. It is RXCWG's hope that we can be a resource to these organizations furthering the use of CW in their respective endeavors and pursuits.

RAGS OF THE PAST

ED GABLE, K2MP, RARA HISTORIAN



40 Years Ago, October 1979

Program Chairman Otto Bluntzer, WB2RJB, arranged for an interesting local company, Hamco, to speak before RARA. What sounds like a specialized ham radio company is actually involved with furnaces used to grow crystals, reported presenters Elwin Roberts and Dick Lane. Monroe County Emergency Coordinator, George Negus, K2OIU, wrote to announce the 1979, Simulated Emergency Test with a theme involving loss of power and communications. The American Red Cross and other medical services were participants and involved many Rochester area hams. Elections for the ARRL Atlantic Division Vice-Director was highly contested this term with Harold Smith K2HC and Alan Komenski AC2K, both running against long term incumbent Hugh Turnball W3ABC. They both lost. With good sunspot activity 40 years ago DX was evidently a hot topic as no less than three such articles appeared authored by Rick Berg WA2RLQ, Bob Roberts WA2QAU and Irv Goodman AF2K, signing ZB2EN. A wonderful article by our local police radio pioneer Clarence "Ducky" Dengler W2LK, told the story of the country's first unattended radio repeater in Diablo, California. Using special FCC authorization, the 39 Mhz repeater, with a four Mhz separation, ran AM and was an immediate success. Ducky went on to build the first Rochester Police Department transmitter with the amazing issued callsign of WPDR, "W Police Department Radio." That set is now in the AWA Museum collection today. It was reported that Roger Vanwuyckhuyse, W2CR, after a two year and very expensive battle with the Town of Webster was successful in obtaining a previously unobtainable antenna permit. This paved the way for many others to follow. The local amateur community is fortunate to have Dwight Hill, K2KWK, appointed an Official ARRL Bulletin station. Dwight will be broadcasting ARRL bulletins on both the 88 and 79 repeaters on a regular schedule. Seven dollars is all you need to enroll in the Fall RARA Code and Theory courses reports Ed Holdsworth, N2EH. From the Want Ads you could buy a Wilson 2 Mtr HT from the long term RARA RAG printer, Don Ray, WA2PKS. "Harvey's Ham," an amateur radio distributor in Caldonia, NY, remained a long term commercial advertiser.



20 Years Ago, October 1999

A non-technical program was the offering for this October meeting as a familiar name, Glenn Johnson, Meteorologist at WORK-TV, covered, among other things, the genesis of the new "Four Minute Forecast." The front cover of this RAG curiously reported the cover article of another publication, the ARRL's QST magazine. The cover of the October, 1999, QST featured an article written by one of our still very active and well respected local amateurs Dr. Jerry Svoboda KB2QIU. His article was a very interesting story telling of his early interest in Amateur Radio, at the age of seven, and how he rekindled his radio activity after pauses for schooling and rearing his family. You can read it today on the ARRL's web site and the archived QST's. A long article by Bill McDonald, KG2F, informed readers of the new Fast

Scan Amateur Radio Television (ATV) Repeater now installed at 111 Westfall Road. The new system was built by local Amateurs and was developed to provide color TV and audio from remote sites to the K2JD club station. The received pictures and audio, from possible emergency locations, were also capable of being displayed on large screen TV's in the Office of Emergency Preparedness Operations Room. Tim Stoffel, NS9E, wrote for the Rochester VHF Group where we learned their next meeting was on VHF Rover contest stations. Leading the discussion was Paul Meyers, N2OPW. In a similar fashion Tom English, N2YJY, writing for the Rochester Radio Repeater Association (RRRA) announced their next meeting would be on Amateur Satellite operation. Pictured in this issue, complete with the obligatory HT held high, was Dave Payne, KA2J, who reported on the Henrietta Duathlon Race. Providing event coordination were Mike KB2CHP, Roger WB2BWQ, Ken N2MXB, and George AA2FO. The DX scene was reported by Ed K2MP, who reminded us of the exciting Annobon Island DXpedition, 3C0R. Other DX of the period was EY11OO, HC8N and OH0V. From the Want Ads you could buy complete new-in-box KLM VHF/UHF rotary antennas from Mac McCowen K2CEH. A newer commercial advertiser is Ray Jobes, W2SYV, offering Sting/ADT alarm system sales and installation.

VE TEAM

The next **ALWAYS FREE** testing session:
 Saturday October 19th (Third Saturday)
 Rochester Institute of Technology
 Kate Gleason College of Engineering
 Gleason School of Engineering
 Room 3139, Bldg. 9
 Use "J" parking lot

Registration at 9:45AM
 Testing at 10:00AM

You do not have to preregister.

To avoid giving your SSN go to:
<http://wireless.fcc.gov/uls/index.htm?job=home>
 Register and bring the resultant FRN to the exam.

For more info and a map:
https://rochesterham.org/license_testing.htm

Don Kiser - AC2EV
 RARA Board member
 VE Team Leader
 585-613-1035

| | | | | | |
|----------------------------|--------|---|--------------------------------|--------|---|
| Richard Stowe | KD2PQN | G | Pradeep Bajracharya | KD2SSG | T |
| Andrew Ziogas | KD2SSH | T | Dumitru-Cristian Tranca | AC2ZP | E |
| Joseph Kleszczewski | KC1LYM | T | Danielle Saba | KN6EKX | T |

New licensees names are in BOLD

CW ELMERS

| Name | Call | Area | Email |
|--------------|--------|-----------|--|
| Ned Asam | W2NED | Pittsford | w2ned@frontiernet.net |
| Tim Brown | WB2PAY | Ogden | tjbrown@rochester.rr.com |
| Pete Fournia | W2SKY | Penfield | pfournia@gmail.com |
| Bill Hopkins | AA2YV | Brighton | whopkin4@naz.edu |
| Bob Karz | K2OID | Webster | rkarz@rochester.rr.com |
| Larry Lavery | WW2J | Fairport | ww2j@arrl.net |
| Joe Rowe | AG2Y | Webster | ag2y@rochester.rr.com |

RADIO ELMERS

| Name | Call | Area | Email |
|-------------------|--------|-----------|--|
| Tim Brown | WB2PAY | Ogden | tjbrown@rochester.rr.com |
| Dave Carlson | N2OA | Batavia | kdcarlso@gmail.com |
| Lawrence Hill | N2AJX | Henrietta | lawrence.hill@rit.edu |
| Bill Kasperkoski | WB2SXY | Pittsford | wb2sxy@arrl.net |
| Don Kiser | AC2EV | N Greece | dkiser100@gmail.com |
| Karl Heinz Kremer | K5KHK | Chili | k5khk@khk.net |
| Tim Magee | WB2KAO | Greece | 585-704-5747 |
| Peter Schuch | WB2UAQ | Perinton | pschuch@rochester.rr.com |
| Forest Shick | WA2MZG | Webster | fshick3@gmail.com |
| Dave Timmons | W2DST | N Greece | dstimmons@gmail.com |
| Dan Waterstraat | W2DEW | Henrietta | higreen@rochester.rr.com |

RARA CALENDAR

TIM BARRETT, K9VB, MEMBERSHIP SECRETARY

| October 2019 | | | | | | |
|---|---|--|---|--|--|--|
| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| | | 1 IQRP Quarterly Marathon 222 MHz Fall Sprint Phone Fray | 2 RaRa Monthly Mtg 7:00pm, BSA HQ, Brighton Henrietta TLR ROC City Net 8:00pm 3.826 MHz IQRP Quarterly Marathon CWOps Mini-CWT Test UKEICC 80M Contest | 3 RaRa BoD Meeting 5:45pm Nova-works 333 Metro Park Rochester 14623 ARES Net 146.61 MHz 7pm IQRP Quarterly Marathon NRAU 10M Contest SARL 80M QSO Party NCC Sprint | 4 IQRP Quarterly Marathon | 5 AWA Museum Open 1pm - 5pm RARA Academy - HF operations - Durand Acorn Shelter IQRP Quarterly Marathon TRC DX Contest Oceania DX Contest, Phone Russian WW Digital Contest YLRL DX/NA YL Contest IARU UHF Region 1 Contest CA QSO Party |
| 6 IQRP Quarterly Marathon TRC DX Contest Oceania DX Contest, Phone Russian WW Digital Contest YLRL DX/NA YL Contest IARU UHF Region 1 Contest CA QSO Party RSGB DX Contest | 7 IQRP Quarterly Marathon ARS Spartan Sprint | 8 Phone Fray NAQCC CW Sprint | 9 ROC City Net 8:00pm 3.826 MHz SIARC 7.30pm 432 MHz Fall Sprint 10-10 10/10 Sprint CWOps Mini-CWT Test | 10 ARES Net 146.61 MHz 7pm NCC Sprint | 11 | 12 AWA Museum Open 1pm - 5pm QRP ARCI Fall QSO Party Makrothen RTTY Contest NV, AZ, PA, SD QSO Parties Oceania DX Contest, CW Scandinavian Activity Contest, SSB SKCC Sprintathon |
| 13 Makrothen RTTY Contest NV, AZ, PA, SD QSO Parties Oceania DX Contest, CW Scandinavian Activity Contest, SSB SKCC Sprintathon | 14 RSGB 80M CW Contest | 15 RDXA 7.30pm Monroe Cty EOC Phone Fray | 16 ROC City Net 8:00pm 3.826 MHz CWOps Mini-CWT Test | 17 ARES Net 146.61 MHz 7pm | 18 JOTA – Jamboree On The Air Zombie Shuffle | 19 AWA Museum Open 1pm - 5pm JOTA – Jamboree On The Air ARRL EME Contest JARTS WW RTTY Contest NY QSO Party IL QSO Party Worked All Germany Contest |
| 20 JOTA – Jamboree On The Air ARRL EME Contest JARTS WW RTTY Contest NY QSO Party IL QSO Party Worked All Germany Contest | 21 | 22 Phone Fray | 23 ROC City Net 8:00pm 3.826 MHz CWOps Mini-CWT Test | 24 Monroe Cty ARES 6pm, Red Cross Center, Prince St | 25 | 26 AWA Museum Open 1pm - 5pm CQ WW DX Contest, SSB |
| 27 CQ WW DX Contest, SSB | 28 | 29 Phone Fray | 30 ROC City Net 8:00pm 3.826 MHz CWOps Mini-CWT Test UKEICC 80M Contest | 31 ARES Net 146.61 MHz 7pm | | |

NEWS FROM AREA CLUBS

MONROE COUNTY ARES / RACES News

Monroe County Amateur Radio Emergency Service (ARES)® is an amateur radio public service organization based in Monroe County, New York, and is open to all licensed amateur radio operators. Monroe County Radio Amateur Civil Emergency Service (RACES) is a program of the Monroe County Office of Emergency Management. We participate in training and emergency exercises so that we can serve other agencies during times of communication failure.



The Monroe County Amateur Radio Emergency Service, Inc. holds its meetings on the fourth Thursday of each month except in July, August and December. Anyone interested, members and non-members, are welcome to attend.

The next ARES Meeting will be held on: Thursday, September 29, 2019, 6:00 PM, at the Red Cross, 825 John St., W Henrietta. Meetings are held at the John St. building on odd numbered months. On even numbered months the meetings are held at the Monroe County EOC, 1190 Scottsville Rd. (Media Room, 2nd floor, north end). If the doors are locked, call WB2EOC on the 146.61 MHz (-) 110.9 Hz PL repeater.

Monroe County ARES/RACES meets on the air every Thursday of the month at 7:00 PM, on the 146.61 MHz (-) 110.9 Hz PL and 444.45 (+) 110.9 Hz PL repeaters. Our club callsign is WB2EOC. There is no net on nights when we hold our regular meeting, generally on the 4th Thursday of the month.

WEB: www.monroecountymcomm.org

Severe Weather Alerts:

Summer brings severe weather in the form of heavy thunder storms, strong winds, and flooding. If you experience severe weather, especially when accompanied by damage to property in your area, listen to your local ARES/RACES repeaters for information. While official ARES/RACES activation could be a possibility, it is more important that we open a spontaneous net simply to share information about weather conditions in your immediate area. Don't wait for someone else to do it. Pick up the microphone and start a net. Have each check-in station give you a situational awareness report and emergency power report. If you don't have a copy of the directed net protocol, you can find one at the WEB address listed above. (Activities/ARES Net/ Net Script/ Downloads). We encourage all amateur radio operators to take a free Skywarn TM class offered by the National Weather Service. The schedule of classes can be found at <https://www.weather.gov/buf/Skywarn>

ROCHESTER DX ASSOCIATION, RDXA

RDXA meets the 3rd Tuesday of every month (September through June) except for December, which is the Annual Holiday Banquet. Meetings are open to everyone and all are encouraged to attend.



Meetings are held at the Monroe County EOC
1190 Scottsville Rd. (second floor), Rochester, NY 14624 at 7:30PM.

ROCHESTER RADIO REPEATER ASSOCIATION

The Rochester Radio Repeater Association, RRRA invites you to attend its October 18, 2019 meeting. Meetings are held on the 3rd Friday of the month in the Pittsford Town Hall Basement starting at 7:30 PM.

The RRRA officers are Bob Shewell, N2HJD President, Bob ODell, N2BZX Vice President, ED Wilkonski, KC2WM Secretary, and Bob Smith, NS2B Treasurer / Membership Chairman. RRRA also accepts donations to the club. If you are not currently a member and want to support RRRA, you can join at our monthly meeting or on our web site www.k2rra.org

ROCHESTER VHF GROUP

The Rochester VHF Group sponsors an informal On-Air Net every Monday at 2100 local time on 144.260 MHz USB and a 6 Meter Net every Thursday at 2100 local on 50.200 MHz USB.

More club information can be found by visiting www.rvhfg.org or just calling in any Monday or Thursday night. All are welcome to check in to these nets.

XRX AMATEUR RADIO CLUB

The XRX Amateur Radio Club meets the 2nd Thursday of each month. The meetings are 6PM at the Webster Recreation Center. Look for details on our website <http://xarc.us>

DRUMLINS AMATEUR RADIO CLUB

The Drumlins Amateur Radio Club meets every third Wednesday of the month at 7:30 PM at the Wayne County EMO/Sheriff's Office 7376 State Hwy 31 #1000, Lyons, NY 14489. Doors open at 7 pm, meeting starts at 7:30 pm. Announcements will be made on the 146.685 repeater. The Drumlins ARC website address is <http://drumlinsarc.us/>

AMATEUR RADIO ASSOCIATION OF THE SOUTHERN TIER, ARAST

ARAST meets the third Thursday of every month at the Town and Country Fire Department on Gardner Rd in Horseheads New York. Chemung County ARES (CCARES) meets the first Tuesday of the month except February at Harris Hill. See www.ccares.info for details. CCARES covers the entire area in Chemung, Schuyler and Steuben counties and all are welcome.

Communicators are needed to help out with the 2019 Wineglass Marathon October 6, 2019 (one week following the Hamfest) . If you would like to help out, contact the emergency coordinator: emergencycoordinator@stny.rr.com

Our website is still under construction. It is anticipated that construction will continue well into the year. Until that is finished check us out at www.arast.info .

Don't forget to check out our repeaters when you visit the area. The N3AQ 147.36(+) and the 146.70(-) are the principal 2 meter repeaters. Also Echolink is available using the call sign KA2BED-R. Check it out. A full list of available repeaters that can be heard in the twin tiers area surrounding Chemung County can be found at www.arst.info/arast_website/public/repeaters.php .

COMMUNITY AMATEUR RADIO CLUB, CARC

If you are interested in being a part of this forward thinking and active club, visit us at a meeting or join us on one of our weekly nets. We meet at the Hoag Library (134 S. Main St. Albion, NY) on the first Saturday of each month at 7PM. Each meeting has a brief training/refresher period with upcoming topics including: net protocol, repeater set-up/maintenance, and digital signaling. The club holds a net every Sunday evening at 8pm (winter) and 9PM (summer) - 0100 UTC Monday - on 147.585 simplex, and we host the Thursday Night Social Net, Thursday at 8:30PM on 147.285+. We'd love to hear you check-in! Take a look at the club website for more info: www.k2srv.org

DIGITAL COMMUNICATIONS ASSOCIATION OF PERINTON, DCAP

DCAP members continue to experiment with leading edge digital communications modes. We were formed in 1994 to foster the development of local and regional packet radio networks using AX25 and TCP/IP. Today we have members using the club sponsored DSTAR repeater (KB2VZS on 444.8MHz), several personal and public [DSTAR hotspots](#) (using the dvrptr board), Yaesu fusion systems on non-club repeaters and DMR. The last mode is being enjoyed locally through a [DV-Mega-Raspberry Pi](#) combination. DCAP meets for breakfast at 7AM nearly every Saturday morning at [Rikki's Family Restaurant](#) in Fairport and everyone is welcome to join us. Talk in is on the KB2VZS analog repeater on 146.715 MHz with a PL of 110.9 Hz.

KEUKA LAKE AMATEUR RADIO ASSOCIATION, KLARA

The purpose of our association is to:

- promote interest in Amateur Radio communication and advancement of the radio art.
- conduct programs, training, and exercises that enhance the skills of the members, and educate the community.
- develop ties with other services and establish relationships with community organizations.
- provide emergency communication services.
- promote enjoyable Amateur Radio related events.

The association was incorporated in 1991 and has been a vibrant part of the community ever since. We have a very active VE testing program. We also participate in numerous public events (the Wineglass Marathon and the Wine Country Classic Boat Regatta are two of the largest).

We operate a system of three repeaters (which are linked), providing a large area footprint for two meter FM amateur use. Please see our website for details. (klara.us)

Our meetings are held on the second Wednesday of each month at the Civil Defense and Fire Training Center on Route 54 in Bath, NY.

SQUAW ISLAND AMATEUR RADIO CLUB, SIARC

The Squaw Island Amateur Radio Club (SIARC) meets every second Wednesday of the month at 7:30PM at the Ontario County Safety Training Facility, 2914 County Road 48, Town of Hopewell. We have License Exam Testing every other month which begins at 6:30PM. The next meeting will be Wednesday, October 9th. There will NOT be License testing this month. The meeting presentation will be on 3D printers. 73's Steve Benton VP SIARC WB2VMR

| Day | Date | Event | Location | Contact |
|--------|-----------|---------------------|----------------|--|
| Sunday | October 6 | Wine Glass Marathon | Steuben County | kb2nci@arri.net |

WESTSIDE AMATEUR RADIO CLUB

The mission of the Westside Amateur Radio Club is to provide emergency communications services to the community, to assist other civic organizations, to promote the technical craft of amateur radio through class training and testing, to mentor new members, and enhance fellowship among radio amateurs.

The Westside Amateur Radio Club meets on the first Tuesday of the month, 7PM, at the Prudential Kares Realty, 3313 Chili Ave., Rochester, NY 14624. Park / enter on the left side of the building and meet in the lobby.

The talk in repeater for all meetings is the WR2AHL Repeater 146.760MHz - 110.9. AllStar, Echolink, and web streaming connections are available.

Website: <http://WestsideAmateurRadio.club>

INTERLOCK ROCHESTER - K2HAX - ROCHESTER'S HACKERSPACE

Visit our website at <http://www.interlockroc.org/>, contact us at info@interlockroc.org, or find us in #interlock on Freenode IRC.

ROCHESTER MAKERSPACE

For more information visit <https://www.makerspacerochester.org/hamradio>

GENESEE VALLEY AMATEUR RADIO ASSOCIATION

Email n3dsp@lafireline.net for details.

ASTRONOMY SECTION ROCHESTER ACADEMY OF SCIENCE

For more information visit <http://www.rochesterastronomy.org/>

THE AMATEUR'S CODE

Originally written by Paul M. Segal, W9EEA (1928)

THE RADIO AMATEUR IS:

| | |
|--------------------|--|
| CONSIDERATE | Never knowingly operating in such a way as to lessen the pleasure of others. |
| LOYAL | Offering loyalty, encouragement and support to other amateurs, local club, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally. |
| PROGRESSIVE | With knowledge abreast of science, a well built and efficient station and operation beyond reproach. |
| FRIENDLY | With slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit. |
| BALANCED | Radio is an avocation, never interfering with duties owed to family, job, school or community. |
| PATRIOTIC | With station and skill always ready for service to country and community. |

FOR SALE

Submitted by Robert Allard, KC2TFI

I have been in touch with a Ron DuBuke (father was Warren K2SM), his father has passed away and now Ron has a cellar full of ham radio and other ham related equipment. When I say cellar full, it is full of old radios and new radios and equipment. Also there is a tower in his backyard with a 3 element beam and wire antennas on it The tower and antennas are free. Did I say the tower is made to tilt over.

Ron's number is 716-435-1000. If you call you have to mention my name and tell him why you are calling. This is so he can tell you what he has and that you are not some salesman. He is a local, Ron is not a ham operator and I tried to talk him into getting his Tech. license, his son may be interested.

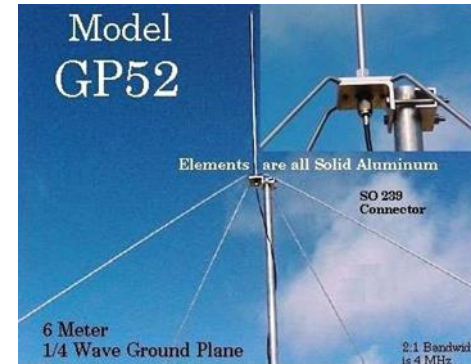


FOR SALE

ARROW GP-52 6 METER 1/4 WAVE GROUND PLANE

MSRP \$54 ASKING \$25.

Contact Tim Brown, WB2PAY tjbrown@rochester.rr.com





QRP Amateur Radio Club
International

www.qrparci.org



[https://
chameleonanten-
na.godaddysites.com/](https://chameleonantenna.godaddysites.com/)



www.dxengineering.com



www.westmountainradio.com



www.maxconus.com



www.mfjenterprises.com

HAM RADIO DELUXE



www.hamradiodeluxe.com



www.tigertronics.com



www.nutsvolts.com



www.hobbypcb.com



[Www.servomagazine.com](http://www.servomagazine.com)



www.birdrf.com



www.n3fjp.com



Melabs.com



MOSLEY ELECTRONICS, INC.

www.mosley-electronics.com



www.universal-radio.com

Radio Society of Great Britain



<https://rsgb.org>



Circuitcellar.com



www.audioxpress.com



www.cq-amateur-radio.com

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Your advertisement will be seen by amateurs in Rochester, Monroe County, New York State, the United States and even the rest of the world. RAG circulation is approx. 4,500.

Contact us for details at
editor@rochesterham.org.

RARA OFFICERS, DIRECTORS AND COORDINATORS

OFFICERS

| | | | | | |
|---|----------------|--|---|----------------|--|
| President: Tim Guyot, KB1POP | (585) 406-3163 | timguyot@gmail.com | Treasurer: Brian O'Connor, KA2CGB | (585) 721-2346 | ka2cgb@arrrl.net |
| Vice-President: Scott Theis, W2LW | (845) 774-9809 | sa_theis@hotmail.com | Secretary: Karl Heinz Kremer, K5KHK | (585) 503-7214 | k5khk@khk.net |

DIRECTORS

| | | | | | |
|----------------------|----------------|--|---------------------|----------------|--|
| Tim Barrett, K9VB | (585) 582-2108 | tim.k9vb@gmail.com | Don Kiser, AC2EV | (585) 613-1035 | dkiser100@gmail.com |
| Tim Brown, WB2PAY | (585) 750-2087 | tjbrown@rochester.rr.com | George Lama, KC2OXJ | (585) 371-8324 | KC2OXJ@gmail.com |
| David Enright, K3WHD | (585) 737-3657 | denright1228@gmail.com | Mike Moore, KC2NM | (585) 721-0011 | mikemoore@ieee.org |

ACTIVITY COORDINATORS

| | | | | | |
|-----------------------------|--|--|------------------------------------|---|--|
| Club Historian | Ed Gable, K2MP | egable@rochester.rr.com | Public Service | Mike Moore, KC2NM | mikemoore@ieee.org |
| Club Station Trustee | Jim DiTucci, N2IXD | n2ixd@arrrl.net | Raffle Administrators | Forest Shick, WA2MZG Jeff Sonstein, KD2RRB | wa2mzg@arrrl.net |
| Education | Tim Brown, WB2PAY | tjbrown@rochester.rr.com | RARA Academy | Tim Brown, WB2PAY Scott Theis, W2LW | tjbrown@rochester.rr.com webmaster@rochesterham.org |
| Hamfest Co-Producers | Contact a RARA Board Member to join | | RARA RAG Editor | Forest Shick, WA2MZG | editor@rochesterham.org |
| VE Team | Don Kiser, AC2EV | dkiser100@gmail.com | Refreshments | Rich Hoffarth, K2AXP | rhoffarth2000@yahoo.com |
| Media Communications | Tim Guyot, KB1POP | timguyot@gmail.com | Reward Points Administrator | Tim Barrett, K9VB | tim.k9vb@gmail.com |
| Meeting Audio | Brad Allen, KB2CHY | ballen@frontiernet.net | Webmaster | Scott Theis, W2LW | webmaster@rochesterham.org |
| Membership Secretary | Tim Barrett, K9VB | tim.k9vb@gmail.com | | | |

ROCHESTER AREA RADIO CLUB CONTACTS

Antique Wireless Association (AWA)

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Amateur Radio Association of the Southern Tier (ARAST)

Thomas English, N2YJY: n2yiy@arri.net

Astronomy Section Rochester Academy of Science

Mark Minarich: mminaric@rochester.rr.com

Community Amateur Radio Club (CARC)

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Digital Communications Association of Perinton (DCAP)

Gary Skuse, KA1NJL: ka1njl@arri.net

Drumlins Amateur Radio Club Ltd. (DARC)

Alan Cook, K2MPE: alancook948@gmail.com

Fisherman's Net Amateur Radio Club

Jim Sutton, N2OPS: jim@otrym.org

Genesee Valley Amateur Radio Assn.

Bill Boyd, N3DSP: N3DSP@lafireline.net

Keuka Lake Amateur Radio Association (KLARA)

Gary Stratton, KC2YTD: keukelakeara@gmail.com

Monroe County ARES

Jim DiTucci, N2IXD: n2ixd@arri.net

Orleans County Amateur Radio Club (OCARC)

Terry Cook, K2EYS: k2eys@ocarc.us

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Rochester Makerspace

David Duckles: rocmakers@gmail.com

Rochester Radio Repeater Association (RRRA)

Bob Shewell, N2HJD: bshewell@frontiernet.net

Rochester VHF Group (RVHFG)

Ev Tupis, W2EV: w2ev@yahoo.com

Squaw Island Amateur Radio Club (SIARC)

Steve Benton, WB2VMR: sbenton2@rochester.rr.com

Westside Amateur Radio Club

Justin Grigg, KC2EQU: communications@westsideamateurradio.club

XRX Amateur Radio Club

Brian Donovan, K2AS: k2as@outlook.com

NOVEMBER RAG DEADLINE OCTOBER 15, 2019



**RARA meets at 7PM on the first
Wednesday of each month. Join us at:**

Seneca Waterways Council, BSA Headquarters
2320 Brighton Henrietta Town Line Rd
Rochester, New York 14623

GET DIRECTIONS

Rochester Area Repeater Listing

THE RARA RAG

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